will clearly understand that many modifications are possible in the preferred embodiment without departing from the teachings thereof. All such modifications are intended to be encompassed within the following claims.

I claim:

1. A data collection method for scanning a scan window comprising one or more channels comprising the steps of:

detecting an integrated signal (S) across a scan window comprising one or more channels using an integrating detector; and

calculating a velocity-normalized integrated signal (Sn) as a function of a scan velocity and the integrated signal S.

2. The method of claim 1 wherein the step of calculating the velocity-normalized integrated signal (Sn) comprises:

determining a scan velocity, v; and

dividing the integrated signal S by the scan velocity v.

3. The method of claim 1 wherein the step of calculating the velocity-normalized integrated signal (Sn) comprises:

measuring a channel width (w);

determining a time for traversing the channel width (t); and

computing a velocity-normalized integrated signal according to the equation Sn=S/(w/t).

4. The method of claim 1 wherein the step of calculating the velocity-normalized integrated signal (Sn) comprises subtracting a detector offset So from an integrated signal (S).

5. The method of claim 1 wherein the channels are disposed in a linear array.

6. The method of claim 1 wherein the channels are lanes in a multilane electrophoresis system.

7. The method of claim 6 wherein the lanes are located in a slab gel.

8. The method of claim 6 wherein the lanes are located in isolated electrophoresis channels.

9. The method of claim 6 wherein the lane density of the multilane electrophoresis system is at least 1.8 mm/lane.

10. The method of claim 1 wherein the step of detecting an integrated signal across a scan window is effected using a stepper motor to cause a relative motion between the scan window and the integrating detector.

11. The method of claim 10 wherein a channel width (w) is measured by counting steps in the stepper motor.

12. The method of claim 11 wherein a position sensor is used to define a home position for initializing the stepper motor.

13. The method of claim 1 wherein the integrating detector is a CCD or a photodiode array.

14. The method of claim 1 wherein the integrated signal results from detection of a fluorescence emission.

15. The method of claim 14 wherein the fluorescence emission is stimulated by a laser.

16. An apparatus for scanning a plurality of channels comprising:

means for detecting an integrated signal (S) across a scan window comprising one or more channels using an integrating detector; and

computer means for receiving the integrated signal S and determining a scan velocity and for calculating a velocity-normalized integrated signal (Sn) as a function of the scan velocity and the integrated signal S.

17. An apparatus for scanning a scan window having one or more channels comprising:

an integrating detector;

a scanner for effecting a scanning of the integrating detector relative to a scan window comprising one or more channels; and

a computer for receiving the integrated signal S and for determining a scan velocity and for calculating a velocity-normalized integrated signal (Sn).

18. The apparatus of claim 17 wherein the integrating detector is a charged coupled device.

19. The apparatus of claim 17 wherein the scanner comprises a stepper motor.

20. The apparatus of claim 17 wherein the scan window comprises multiple electrophoresis lanes.

21. A program storage device readable by a machine, tangibly embodying a program of instructions executable by a machine to perform method steps to scan a scan window comprising one or more channels, said method steps comprising:

detecting an integrated signal (S) across a scan window comprising one or more channels using an integrating detector; and

calculating a velocity-normalized integrated signal (Sn) as a function of a scan velocity and the integrated signal S.

22. The program storage device of claim 21 wherein the step of calculating the velocity-normalized integrated signal (Sn) comprises:

determining a scan velocity, v; and

dividing the integrated signal S by the scan velocity v.

23. The program storage device of claim 21 wherein the step of calculating the velocity-normalized integrated signal (Sn) comprises:

measuring a channel width (w);

determining a time for traversing the channel width (t); and

computing a velocity-normalized integrated signal according to the equation Sn=S/(w/t).

24. The program storage device of claim 21 wherein the step of calculating the velocity-normalized integrated signal (Sn) comprises subtracting a detector offset So from an integrated signal (S).

25. The program storage device of claim 24 wherein a channel width (w) is measured by counting steps in the stepper motor.

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